



PATENT APPLICATION

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Masaru FUKU, et al.

Appln. No.: 09/419,787

Group Art Unit: 2827

Confirmation No.: 1797

Examiner: J. MITCHELL

Filed: October 18, 1999

For: ONBOARD SEMICONDUCTOR DEVICE

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TC 2800 MAIL ROOM

RESPONSE UNDER 37 C.F.R. § 1.111

Commissioner for Patents  
Washington, D.C. 20231

Sir:

In response to the Office Action dated April 24, 2002, please consider the following remarks:

Claims 2-7 are all the claims pending in the application. Claims 3-5 are allowed.

Claims 6 and 7 are rejected under 35 U.S.C. § 102(e) as being anticipated by Hiramoto (JP 11087610). Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiramoto in view of Rudi (EP 0787992). Applicant respectfully traverses the rejections as set forth below.

Claims 6 and 7 require a control circuit board having mounted thereon an electrical component in relation to a power chip. Hiramoto fails to teach or suggest this limitation of these claims. Instead, Hiramoto discloses an interconnecting electrode board 8, whose purpose is connecting the chip power board 6 to the outer electrodes 2. As stated in the Abstract of the

reference, since the power board 6 and the outer electrodes 2 are connected only through press contacting the device can be easily disassembled. The Examiner asserts that, inherently, a control circuit can be mounted on any circuit board. However, even if a control circuit can be mounted on a circuit board, it is not inherent that any circuit board includes a control circuit. Moreover, Hiramoto is directed to simply providing a connection from a power board to outer electrodes, without any concern or need for a control circuit.

Also, Hiramoto fails to disclose an electrical component mounted on a control circuit board. In particular, the electrode board 8 that the Examiner considers to be a control circuit board only includes electrodes for connecting the power board 6 to the outer electrodes 2.

Electrodes  
are  
on  
electrical  
component

Therefore, claims 6 and 7 are believed to be allowable over the prior art, for at least the reasons discussed above.

Since Rudi fails to make up for the deficiencies of Hiramoto, claim 2 is believed to be allowable over the prior art also.

Additionally, there is no suggestion or motivation to combine the teachings of Hiramoto and Rudi. Hiramoto discloses using a fixing screw 11 for fixing the interconnecting electrode board 8 between a chip power board 6 and outer electrodes 2. Since Hiramoto already discloses a way of securing the boards and since Hiramoto's disclosure does not express any concern for vibration resistance, there is no motivation to add the pawls of Rudi to Hiramoto.

Furthermore, the purpose of Hiramoto is to provide a power module which is easily disassembled. Adding pawls would contradict this purpose of Hiramoto by making disassembly

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more difficult. As disclosed at column 1, lines 36-40, Rudi's circuit boards can be permanently secured by Rudi's device. At the very least, then, combining the pawls of Rudi with Hiramoto's device would make disassembly of Hiramoto's device more difficult. Thus, there is no suggestion or motivation to combine the teachings of these references for this additional reason.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

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